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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/816,496

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Mark Y. An

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EXAMINER

TROTTER, SCOTT S

ART UNIT

PAPER NUMBER

3694

MAIL DATE

DELIVERY MODE

11/14/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/816,496	<b>Applicant(s)</b> AN ET AL.	
	<b>Examiner</b> SCOTT S. TROTTER	<b>Art Unit</b> 3694	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 1-10, 17-19 and 28-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-16 and 20-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>July 1, 2004</u> .  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Restriction election***

1. The Office acknowledges the receipt of Applicant's restriction election, filed July 14, 2008. Applicant elects Group II, claims 11-16, and 20-27, without traverse. Claims 1-32 are pending. Claims 1-10, 17-19, and 28-32 are nonelected. Claims 11-16 and 20-27 are examined in the instant application. This restriction is made FINAL.

***Information Disclosure Statement***

2. An initialed and dated copy of Applicant's IDS form 1449 filed July 1, 2004, is attached to the instant Office action.

***Claim Rejections - 35 USC § 112, second paragraph***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 11-16, and 20-23, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims seem to suggest substituting a random number for missing data that will not produce reproducible results which is required for patentability. Clarification and/or correction are required.

***Claim Rejections - 35 USC § 101***

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 11-16 and 20-27 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Based on Supreme Court precedent (*Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876) and recent Federal Circuit decisions, the Office's guidance to examiners is that a § 101 process must (1) be tied to another statutory class (such as a particular apparatus) or (2) transform underlying subject matter (such as an article or materials) to a different state or thing. (The Supreme Court recognized that this test is not necessarily fixed or permanent and may evolve with technological advances. *Gottschalk v. Benson*, 409 U.S. 63, 71 (1972)) If neither of these requirements is met by the claim, the method is not a patent eligible process under § 101 and should be rejected as being directed to nonstatutory subject matter.

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7. Claims 11-16, and 20-23, are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims seem to suggest substituting a random number for missing data that will not produce reproducible results which is required for patentability.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Starkman (U.S. Patent 7,188,084 B2) in view of Ferguson (US PG-Pub 2003/0149603).

As per claim 11, 20, and 24 Starkman teaches modeling cash flows and income for loan portfolios. (*see Starkman abstract*) Starkman does not explicitly teach dealing with missing data but Ferguson teaches removing and replacing any outlier data which can include missing data involved in electronic commerce including loans. (*see Ferguson abstract and paragraph 89*) Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use Starkman to model the cash flows with Ferguson used to deal with missing data.

As per claim 12 Starkman teaches predicting delinquencies. (*see Starkman column 2 lines 45-48*)

As per claim 13 Starkman teaches predicting defaults. (*see Starkman column 2 lines 29-34. Predicting repossessions are defaults.*)

As per claim 14 Starkman teaches predicting loans being paid off. (*see Starkman column 5 lines 54-61*)

As per claims 15 and 21 Starkman teaches monitoring delinquencies and predicting future performance based on that performance. (*see Starkman abstract*) Starkman does not explicitly teach dealing with missing data but Ferguson teaches removing and replacing any outlier data which can include missing data involved in electronic commerce including loans. It would have been obvious to a person ordinary skill in the art at the time the invention was made to replace all of the missing data regardless of which partition it belonged to.

As per claims 16, 22, and 25 Starkman teaches predicting performance based on history. (*see column 3 lines 37-43. The credit premium paid would be part of a loans history.*)

As per claim 27 Starkman teaches predicting loan results for groups of loans. (*see column 2 lines 19-28. Predicting the losses for the group of vehicles in an area effected by a natural disaster is grouping loans.*)

10. Claims 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Starkman (U.S. Patent 7,188,084 B2) in view of Ferguson (US PG-Pub 2003/0149603) and Official Notice.

As per claims 23 and 26 Starkman and Ferguson teach the method of claim 22 but does not explicitly teach solving for the credit premium. Official Notice is taken that

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it is old and well known in the art of mathematics to iteratively solve for a value as described in claim 23 with an example being the optimal algorithm for finding a random number between 1 and 100 where can only find out if the number is higher or lower is to always pick the middle number of the range starting with 50. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to solve for the credit premium using that method.

### ***Conclusion***

11. Examiner's Note: The Examiner has cited particular columns and line numbers in the references as applied to the claims for the convenience of the applicant.

Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant, in preparing the responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

12. Any inquiry concerning this communication from the examiner should be directed to Scott S. Trotter, whose telephone number is 571-272-7366. The examiner can normally be reached on 8:30 AM – 5:00 PM, M-F.

13. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James P. Trammell, can be reached on 571-272-6712.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system, see <http://pair-direct.uspto.gov>.

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Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

15. The fax phone number for the organization where this application or proceeding is assigned are as follows:

(571) 273-8300 (Official Communications; including After Final  
Communications labeled "BOX AF")

(571) 273-6705 (Draft Communications)

Sst  
11/15/2008

/James P Trammell/  
Supervisory Patent Examiner, Art Unit 3694